April 5, 1932. B. J. GRIFFIN 1,852,609

DOORCHECK

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Fig. 2.

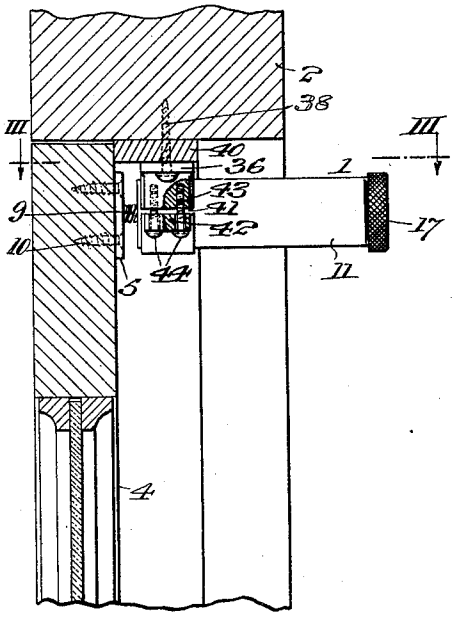


Fig. 1.

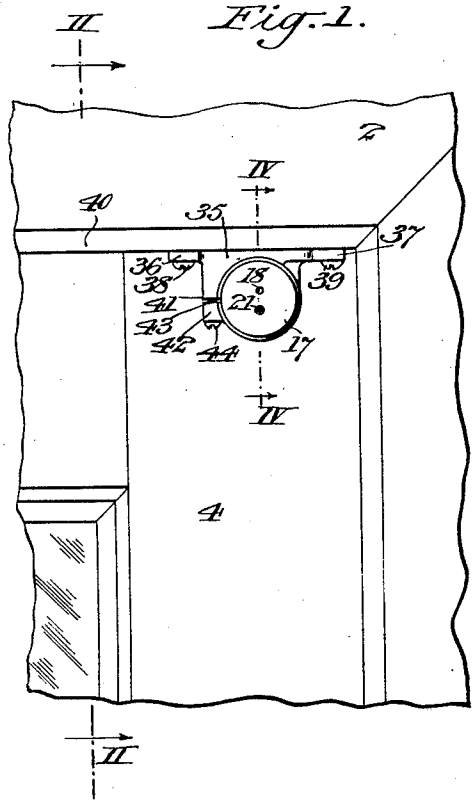
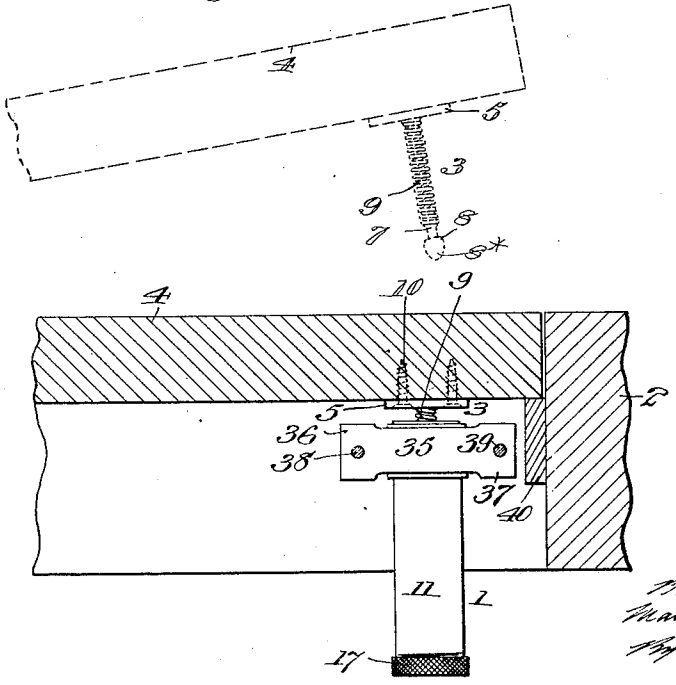


Fig. 3.



INVENTOR

Burt J. Griffin, deceased

Maud W. Griffin, Administratrix

By Thomson & Ward

ATTORNEYS

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Fig. 5.

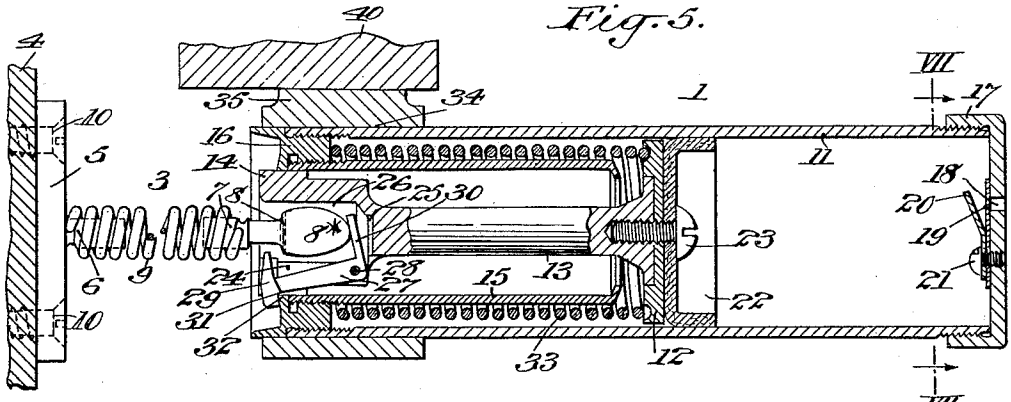


Fig. 4.

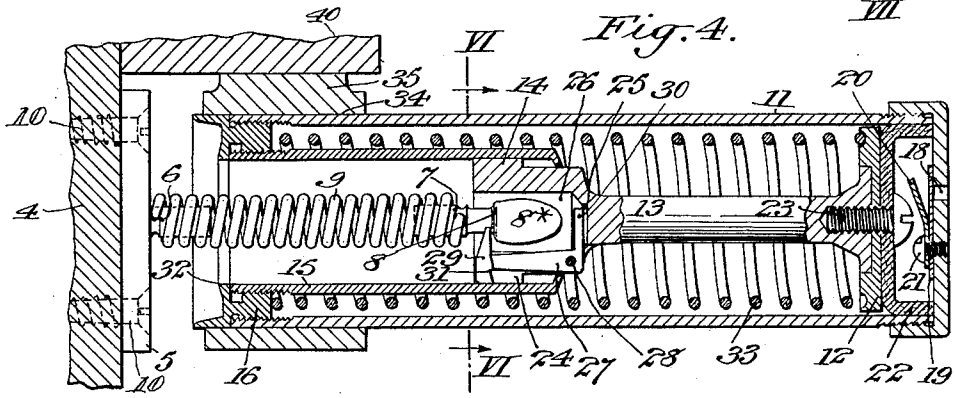


Fig. 6.

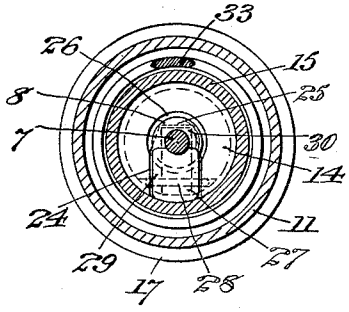
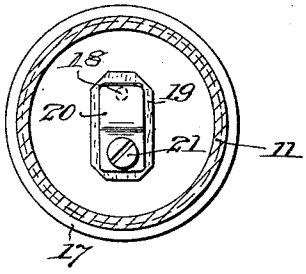


Fig. 7.



INVENTOR

Bert J. Griffin, deceased
Mamie W. Griffin, Administratrix
By Brownell & Howard

ATTORNEYS

Patented Apr. 5, 1932

1,852,609

UNITED STATES PATENT OFFICE

BARTE J. GRIFFIN, DECEASED, LATE OF NEW YORK, N. Y., BY MAUDE W. GRIFFIN, ADMINISTRATRIX, OF NEW YORK, N. Y.

DOORCHECK

Application filed January 20, 1930. Serial No. 422,073.

This invention relates to door checks and has for an object to provide means for preventing the door from slamming against the door jamb when being closed, which means also holds the door to prevent rebounding.

Another object is to provide a door check having one of its members adjustably mounted to accommodate different structures of door frames.

Another object is to provide a door check having its coacting members constructed to yield one against the other to prevent violent impact therebetween.

Another object is to provide certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be attained.

A practical embodiment of this invention is represented in the accompanying drawings, in which

Fig. 1 represents a detail interior elevation of one corner of a door and jamb showing the improved device applied thereto;

Fig. 2 represents a vertical section taken in the plane of the line II—II of Fig. 1 looking in the direction of the arrows;

Fig. 3 represents a horizontal section taken in the plane of the line III—III of Fig. 2 looking in the direction of the arrows, and showing a portion of the door and its member thereon in another position in dotted outline;

Fig. 4 represents a vertical section, on a larger scale, taken in the plane of the line IV—IV of Fig. 1 looking in the direction of the arrows;

Fig. 5 represents a similar view with the parts shown in another position;

Fig. 6 represents a vertical section taken in the plane of the line VI—VI of Fig. 4 looking in the direction of the arrows; and

Fig. 7 represents a vertical section taken in the plane of the line VII—VII of Fig. 5 looking in the direction of the arrows;

The device comprises a member 1 fixed to the door casing 2 and a member 3 carried by the door 4 and movable therewith toward and away from the member 1.

The door member 3 comprises a plate 5 having a stud 6 extending outwardly therefrom, a pin 7 provided with an annular shoulder 8 developed into a head 8* of ellipsoidal form, and a coil spring 9 having one end secured to the stud 6 and the other end fixed to the pin 7 for yieldingly supporting the shouldered head in position. The plate 5 is secured to the door 4 by means of screws 10.

The fixed member 1 comprises a hollow cylinder 11, a plunger 12 movable in the bore of the cylinder, a rod 13 secured to said plunger and provided with an enlarged cylindrical head 14 fitted to slide in a tube 15 which is screw threaded into a ring 16 having a screw threaded engagement with the end of the bore of the cylinder 11. The other end of the cylinder 11 is exteriorly screw threaded to receive a cap 17 having a hole 18 which is covered by a flexible piece of material 19, such as rubber or leather, which is arranged to coact with the hole 18 in the cap. The flexible piece of material 19 is held in position by a guard 20 which is secured to the cap by a screw 21 threaded in the cap. The plunger 12 is provided with a cup-shaped washer 22 of leather or other similar material secured in position by means of a screw 23 and arranged to engage the bore of the cylinder 11 to be moved with the plunger toward and away from the cap 17.

The cylindrical head 14 of the plunger 12 is provided with a longitudinally arranged slot 24 which terminates in a radially disposed slot 25. A tubular recess 26 is located in the head 14 and communicates with the slots 24, 25. A gravity operated latch 27 is pivoted at 28 at the junction of the slots 24, 25 and is provided with a weighted head 29 and a foot piece 30, of which the head 29

moves in the slot 24, while the foot piece 30 moves in the slot 25.

The weighted head 29 of the latch 27 has its lower end notched at 31 so as to be rocked into and out of engagement with the inner peripheral edge 32 of the ring 16. The upper edge of the weighted head 29 is slightly bifurcated to straddle the pin 7 and engage the shoulder 8 of the head 8*.

A coil spring 33 is disposed in the bore of the cylinder 11 between the ring 16 and the plunger 12 which spring tends to exert pressure on the plunger and force it toward the cap 17.

The cylinder 11 is removably secured in a cylindrical bore 34 of a hanger 35 having flanges 36, 37 arranged to receive screws 38, 39 for holding the cylinder 11 in position on the door stop 40 and casing 2. The hanger 35 is divided longitudinally along the bore 34 as shown at 41 to form a yielding portion 42. This yielding portion 42 may be moved slightly to increase or diminish the diameter of the bore 34, so that the cylinder 11 may be readily moved longitudinally therein when desired. The cylinder 11 is firmly gripped in the bore 34 by means of screws 43 threaded into the hanger 35 and having their heads 44 arranged to engage the yielding portion 42.

In operation, assuming that the parts are in the position shown in Figs. 1 to 3 inclusive and Figs. 4 and 6, the door 4 is closed in the casing 2 and in contact with the door stop 40. In this position the pin 7 with its shouldered head is located in the tubular recess 26 and held therein by the bifurcated head 29 of the latch 27. The position of the head 29 is maintained by its contact with the interior wall of the tube 15, so that as the door 4 is moved away from the door stop 40, the plunger will be moved in the cylinder 11, while the head 14 will be caused to travel in the tube 15 until the head 29 of the latch 27 is withdrawn from the tube 15 and the latch rocked on its pivot 28 to allow the notch 31 to fall, by gravity, into position to engage the edge 32 of the ring 16. This outward movement of the parts will tend to compress the spring 33, which will be locked in this compressed position by the latch 27 until the notch 31 in the head 29 is lifted out of contact with the edge 32 of the ring 16. When the plunger 12 with its rod 13 and head 14 is held in this position, the bifurcated end of the head 29 will have been moved away from the shoulder 8 of the pin 7, so that the head 8* will be free to be removed from the recess 26 and the door 4 may be opened without resistance.

When the door is to be brought to its closed position, the ellipsoidal head 8* of the member 3 will be caused to enter the recess 26 and contact with the foot piece 30 of the latch 27. The further movement of the head 8* in the recess 26 will move the foot piece into its slot 25 and rock the latch 27 on its pivot 28 until the notch 31 of the weighted head 29 is released from the edge 32 of the ring 16, whereupon the spring 33 will be free to exert its pressure upon the plunger 12 and move it in the cylinder toward the cap 17. This movement of the plunger will cause the bifurcated end of the weighted head 29 to be brought into engagement with the annular shoulder 8 of the pin 7 to prevent the pin from being withdrawn from the recess 26. The bifurcated end of the weighted head 29 will be held in this position by reason of its sliding engagement with the inner wall of the tube 15 and it will remain in this position until the door is brought to its open position as above described. This movement of the plunger 12 in the cylinder 11 will cause the washer to compress and trap the air in the cylinder 11 between it and the cap 17 and thereby retard the action or impact of the spring on the plunger. The air trapped in the cylinder between the washer and cap will leak slowly past the flap 19 and through the opening 18, so that the spring will gradually move the plunger toward the cap until the air has been exhausted and the tension of the spring spent.

It is obvious that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of the invention, and hence it is not intended to be limited to the details herein shown and described except as the same are set forth in the claims.

What is claimed is:

1. A door check comprising a hanger, a cylinder adjustably mounted therein, a spring actuated piston movable in said cylinder, a latch movable with the piston and arranged to engage the cylinder for locking the piston in the cylinder against the tension of the spring, a yielding member arranged to be brought into engagement with said latch for actuating it to release the piston, and means on the latch coacting with the cylinder for locking said yielding member to the piston.

2. A door check comprising a hanger, a cylinder adjustably mounted therein, a spring actuated piston movable in said cylinder, a latch movable with the piston and arranged to engage the cylinder for locking the piston in the cylinder against the tension of the spring, a member provided with a yielding head arranged to be brought into engagement with said latch for actuating it to release the piston, and means on the latch coacting with the cylinder for locking said yielding head to the piston.

3. A door check comprising a hanger, a cylinder adjustably mounted therein, a spring actuated piston movable in said cylinder, a gravity operated latch movable with

the piston and arranged to engage the cylinder for locking the piston in the cylinder against the tension of the spring, a member provided with a yielding head arranged to be brought into engagement with said latch for actuating it to release the piston, and means on the latch coacting with the cylinder for locking said yielding head to the piston.

In testimony that the foregoing is the invention of the said BARTE J. GRIFFIN, deceased, I have signed my name this 14th day of January, 1930.

MAUDE W. GRIFFIN,
Administratrix of the Estate of Barte J. Griffin, Deceased.